

## NOTES, INFORMATION & NEWS

A Final Note on *Cancellaria nassiformis* Lesson, 1842,  
and *Nassarius corpulentus* (C. B. Adams, 1852)

by

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CERNOHORSKY's (1986:460) note on the status of *Cancellaria nassiformis* Lesson, 1842, unfortunately requires a reply, as his paper makes it appear that the earlier paper on the subject (PETIT, 1984) was written in ignorance of the International Code of Zoological Nomenclature. Cernohorsky cites Declaration 43 (1970) and declares *Cancellaria nassiformis* to be a *nomen oblitum*. Declaration 43 was superseded by the 1972 changes (INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE, 1972:177) in the Code which deleted Article 23(a) and (b), replacing them with Article 23(a-b) which stated: "The Law of Priority is to be used to promote stability and is not intended to be used to upset a long-established name in its accustomed meaning through the introduction of an unused name which is its senior synonym. A zoologist who considers that the application of the Law of Priority would in his judgement disturb stability or universality or cause confusion is to maintain existing usage and must refer the case to the Commission for a decision under the Plenary Powers [Art. 79]." Article 23(b) in the 1985 edition of the Code has slightly different wording, but the intent remains unchanged.

The term *nomen oblitum* has not appeared in the Code since 1 January 1973 except for its definition in the glossary of the 1985 edition (INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE, 1985:260).

The purpose of this note is not to make a case for the retention of the earlier name, but to restate my earlier contention that Lesson's name must either be employed as the correct name for the species or it must be rejected by action of the International Commission on Zoological Nomenclature. This statement is in conformity with the Code. CERNOHORSKY's (1986) unilateral action is in violation of Article 23(b) and is unacceptable.

### Literature Cited

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- INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE. 1970. Declaration 43. Repeal of Article 23(b). *Bull. Zool. Nomencl.* 27(3/4):135-162.
- INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE. 1972. XVIIth International Congress of Zoology, Monaco, 24-30 September 1972. Minutes of the meeting of the International Commission. *Bull. Zool. Nomencl.* 29(4):168-189.
- INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE. 1985. International code of zoological nomenclature. 3rd ed. 338 pp.
- PETIT, R. E. 1984. An earlier name for *Nassarius corpulentus* (C. B. Adams, 1852). *Veliger* 26(4):330.
- Soviet Contributions to Malacology in 1981  
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### INTRODUCTION

Following previous synopses of the Soviet malacological literature (see *Veliger* 28[3]:329-337 for the most previous listing and reference to earlier ones), we present in translation, a summary of the papers abstracted by the Referativnyy Zhurnal in 1981. We have utilized the categorical arrangements offered by the Referativnyy Zhurnal although on occasion we have placed a paper in what, to us, appears to be a more appropriate category.

At least two major contributions appeared during the year, one being the extensive treatment of the terrestrial slugs of the USSR by Likharev & Viktor who considered over 100 species from eight different families of stylomatophoran pulmonates. Of considerable interest is the fact that the expression of the sluglike condition, which is characterized by a reduction and/or total loss of the shell in the adult stage, has independently evolved several times from shelled ancestors within the Pulmonata. Examples of parallelism and convergences among these lineages are noted. Incidentally, these numerous sluglike taxa obviously do not include those autochthonous or otherwise independently evolved taxa from the Neotropics, Sub-Saharan Africa, southeast Asia, and Oceania.

Another major work includes Skarlato's exhaustive systematic monograph of the bivalves of the cool-temperate waters of the western Pacific Ocean. He covered almost 300 species distributed among 45 families. Careful descriptions, good illustrations, and extensive biological data are provided for each species and the entire fauna is analyzed to give greater credence to the current divisions of

the zoogeographical provinces of the Far Eastern Seas of the USSR. Of much smaller scope is his handbook to the bivalves, co-authored by Volova, to the obviously more restricted area of the Peter the Great Bay.

Important for our appreciation of the population dynamics of species, indeed for the species concept in the hermaphroditic freshwater pulmonates, are Berezkina's papers, especially where she showed the deleterious effects of continued inbreeding by self-fertilization in *Lymnaea*; she clearly documented decreased fitness in succeeding generations of selfed individuals, not only by a reduction in shell size, but also in decreased reproductive success as reflected, for example, in the increased occurrence of anomalous eggs. It is not possible to imagine that some of the more than 1200 nominal species of lymnaeids are daughter colonies of self-fertilized individuals. Similarly, Kruglov's analysis of the morphological changes in the reproductive systems of lymnaeids indicates that exact measurements of such features as length of the preputium without reference to the age or sexual condition of the specimen are quite meaningless.

Kruglov & Frolenkova have in the spirit of Bondeson described the egg capsules of 24 species of prosobranch and pulmonate freshwater mollusks. In examining the life cycle of *Bradybaena*, Zeifert & Khokhukin have shown how the species optimizes its reproductive potential during the short summers of the Palearctic.

The introduction of new taxa continues apace with: Ivanov on *Caudofoveatus* for an aplacophoran caudofoveate; Kruglov & Starobogatov on *Aenigmomphiscola* for an array of new lymnaeid species convergent on *Lymnaea* (*Ophiscola*); Starobogatov & Andreeva on pyrgulids from the Aral Sea; Stadnichenko for fingernail clams, cycladids or pisidiids, from the Crimea and the Ukraine; Savitskii on Kuril Island *Cyclocardia*; Uvalieva on *Carychium* from Kazakhstan; Izzatullaev on planorbids from Central Asia; and Golikov & Sirenko on archaeogastropods from the Sea of Japan. Lus has provided new data on several deep-sea representatives of the Buccinidae including the genera *Tacita*, *Mohnia*, and *Sipho*.

Introduction of foreign or exotic species or the spread of European species into various parts of the USSR are documented by Popova & Shibanova for some land pulmonates in Siberia, by Izzatullaev for *Deroceras* and *Oxychilus* in Central Asia, and by Alekseev for the supposed Australoid *Potamopyrgus* (*Hydrobia*) *jenkinsi* in the Baltic.

For bivalves, Nevesskaya & Popov recounted the spectacular radiation of certain taxa, mostly cardiids, in the increasingly isolated and brackish waters of the Paratethys during the late Tertiary; not only were numerous morphologies rapidly elaborated, but new niches exploited; many new genera and even subfamilies have been delineated. Leibson & Usheva summarized data on the structure and function of the digestive diverticula and its role in intra-cellular digestion while Makrushin showed, in

two vastly different lineages (e.g., mytilids and tellinids), a probable, general ontogenetic phenomenon for bivalve hemocytes.

For cephalopods, Kondrakov, Moskalev & Nesis, utilizing previously expounded ideas concerning the Pleistocene history of the Arctic Basin, explained the current allopatric distribution of two octopoids, *Benthoctopus sibiricus*, which occupies the eastern Arctic seas from the Kara to the Beaufort, and *Bathypolypus arcticus* of the western Arctic. Nesis & Nikitina studied the presumably long-lived epipelagic, so-called macrotritopic larvae of *Ocotopus defilippi* and showed them not to belong to *Scaevurgus unicirrhus* as previously believed.

#### ABBREVIATIONS

- BMV—Biologiya Morya (Marine Biology, Vladivostok).  
 EKS—Ekol. Zhivotnykh Smolensk. i sopredel'n. obl. (Ecology of the Animal Life of Smolensk and adjacent regions, Smolensk, 1980).  
 ES—English summary.  
 GERM—Gistofiziol. Effektn. i retseptorn, mekhanizmov. (Histophysiology of the effector and receptor mechanisms in the nervous system of marine organisms, Vladivostok).  
 GZ—Gidrobiologicheskii Zhurnal (Hydrobiological Journal).  
 NDVS—Nauch. Dokl. Vyssh. Shkol. Biol. Nauk. (Scientific Reports of the Higher Educational School for Biological Sciences).  
 SRF—Nauch. Soobshch. Inst. Biol. Morya. Dal'nevost. Nauch. Tsentr. (Scientific Reports of the Institute of Marine Biology. Far Eastern Scientific Center. Acad. Sci., USSR).  
 TIO—Trudy Instituta Okeanologii. Akademiya Nauk SSSR. (Transactions of the Institute of Oceanology, Academy of Sciences, USSR).  
 ZEBF—Zhurnal Evolyutsionnoi biokhimii i fiziologii. (Journal of evolutionary biochemistry and physiology).  
 ZZ—Zoologicheskii Zhurnal (Zoological Journal).

#### GENERAL

ZATRAVKIN, M. N. 1980. Freshwater molluscan faunas of the central drainage of the northern Donetz River. ZZ 59(11): 1739–1742 (ES).

[71 species of gastropod and bivalve mollusks are reported from the central and upper drainage of this river. Of these 60 are represented in the collections gathered by the author. Included is a list of the molluscan species compositions of the northern Donetz, its tributary the Kazennii Toretz, and flood-plain lakes.]

ZOLOTAREV, V. N. 1980. On some principles for the interpretation of growth temperatures of marine mollusks established by the oxygen isotope method. BMV, no. 4:82–86 (ES).

[The influence of methodology and choice of samples on the results of biogeochemical determinations of growth temperatures of marine mollusks is examined. An example of the utilization of such data as a basis for a model of the evolution of cold water malacofauna (Kafanov, 1979) was shown to contain several errors in the interpretation of results of oxygen isotope analyses.]

#### CAUDOFOVEATA

IVANOV, D. L. 1981. *Caudofoveatus tetradens*, gen. et sp. n. and a diagnosis of taxa in the subclass Caudofoveata (Mollusca; Aplacophora). ZZ 60(1):18–28 (ES).

[The first critical review of the synonymies of *Chaetoderma* Loven, 1845, and *Crystallophrisson* Möbius, 1875, has resulted in changes of generic names in the superorder Chaetodermatimorpha. Described is *Caudofoveatus tetrads* Ivanov, gen. et sp. n. (Chaetodermatida). Included are diagnoses of all ordinal and family level taxa in the subclass Caudofoveata. These include several that have been separated as new taxa.]

### SCAPHOPODA

CHISTIKOV, S. D. & A. YU. SAGAIACHNII. 1981. Comparative morphology of the shells of two species of *Entalina* (Mollusca; Scaphopoda). *ZZ* 60(1):36–41 (ES).

[Linear regression analysis of the Mediterranean and eastern Atlantic forms of *Entalina quinquangularis* (= *E. tetragona* auct.) has shown that these taxa may be considered different species. The name *E. pentagona* (M. Sars, 1865) (type locality—Lofoten Island, Norwegian Sea) is restored for the Atlantic species. The Mediterranean species retains the name *E. quinquangularis*. The possibility of utilizing regression equations for differential diagnoses of these species is discussed. A description of *E. pentagona* is included.]

### GASTROPODA, PROSOBRANCHIA

ALEKSEEV, N. K. 1980. On the occurrence of a freshwater form of *Potamopyrgus jenkinsi* (Mollusca; Gastropoda) in Kaliningrad Province. Tr. Kaliningr. Tekh. In-ta Ryb. Prom-sti i Kh-va (Transactions of the Kaliningrad Technical Institute of Fisheries, Industry and Agriculture), no. 91:28–30.

[The spread of the mollusk *Potamopyrgus*, a representative of the Australian zoogeographic province, into the Baltic Sea and the freshwater drainages of Europe is reported. The ecological plasticity and biological features of this mollusk cause it to be recommended for introduction into fish-breeding ponds, so as to increase the food supply for fish.]

GOLIKOV, A. N. & B. I. SIRENKO. 1980. New species of the subclass Scutibranchia from the Sea of Japan. Issled. Fauni Morei (Studies of Marine Fauna), Leningrad, 25/33:105–108 (ES).

[Based on material collected in 1972 on Moneron Island (Sea of Japan), *Puncturella raricostata* sp. n. and *Scissurella* (*Schizotrochus*) *disciformis* sp. n. are described.]

GUL'BIN, V. V. 1980. The fauna and several ecological features of the littoral gastropod mollusks of the northern portion of the Sea of Japan. Pribrezh. Plankton i bentos sev chasti Yapon. Morya (Coastal plankton and benthos of the northern portions of the Sea of Japan), Vladivostok, pp. 93–105.

[43 species of gastropod mollusks were found in the littoral zone of the northern portion of the Sea of Japan (from off Cape Povorotnii to Moneron Island, and Cape Kril'on, and to the north of the Strait of Nevel'skii). A short bibliography, zonal-geographic affinities, and characters of habitat are presented for each species. There is a predominance of cold-water fauna in the region of Soviet Gavan' (continental shore) and Cape Kuznetsov (SE Sakhalin), while a warm-water fauna predominates in the region of Moneron Island. It is proposed that there are two biogeographic provinces in the Sea of Japan, their boundary passing through Cape Povorotnii and south of Moneron Island and Cape Kril'on. The presence of two biogeographic regions is proposed for the northern province: one envelops the littoral zone of Moneron Island, the other of Capes Povorotnii and Kril'on northward to the Straits of Nevel'skii.]

LUS, V. YA. 1981. On the abyssal species *Sipho* (*Siphonorbis*) *danielsseni* (Friele) and *Mohnia mohni* (Friele) (Gastropoda: Buccinidae). *TIO* 115:126–139 (ES).

[Detailed, illustrated descriptions of shell structure, morphology, and anatomy of two deep-water Arctic species of gastropod mollusks of the family Buccinidae are presented as is information on their geographic and bathymetric distribution. The evolution as well as the systematic relationships of these two species to other members of the family Buccinidae are discussed.]

LUS, V. YA. 1981. A new species of *Tacita* (Gastropoda: Buccinidae), widely distributed in the lower abyssal zone of the northwestern Pacific Ocean. *TIO* 115:140–154.

[A detailed description of the morphology and anatomy of the deep-water buccinid *Tacita arnoldi* sp. n., from seven stations of the R/V *Vityaz* in the northwestern portion of the Pacific Ocean at depths of 5070–6135 m is presented. The genus *Tacita* includes three species, of which two were described earlier, that are distributed in a series of deep-water trenches in the Pacific. The center of species radiation of the genus *Tacita* is here considered to be the Kuril-Kamchatka Trench. The taxonomic and phylogenetic significance of this hypothesis is discussed.]

MANCHENKO, G. P. 1980. Isoenzymes in the gastropod *Haliotis discus*. *BMV*, no. 5:82–85 (ES).

[By the method of vertical starch gel electrophoresis, tissue specificity and molecular polymorphisms of the following isoenzymes of the gastropod mollusk *Haliotis discus* were studied: adenylate kinase, alcohol dehydrogenase, aspartate aminotransferase, hexokinase, glycerol-3-phosphate dehydrogenase, glucose phosphate isomerase, isocitrate dehydrogenase, acid and alkaline phosphatases, xanthine dehydrogenase, lactate dehydrogenase, leucine aminopeptidase, NAD dependent malate dehydrogenase, NADP dependent malate dehydrogenase, sorbitol dehydrogenase, superoxide dismutase, phosphoglucosmutase, 6-phosphoglucosmutase dehydrogenase, and nonspecific esterase. Activity of the enzymes aspartate aminotransferase, glycerol-3-phosphate dehydrogenase, isocitrate dehydrogenase, leucine aminopeptidase, phosphoglucosmutase, and alkaline phosphatase was not found in any of the tissues studied. Discovery of multiple molecular forms of the remaining enzymes indicates that they are under the control of at least 20 independent genetic loci.]

STAROBOGATOV, YA. I. & S. I. ANDREEVA. 1981. New species of mollusks of the family Pyrgulidae (Gastropoda; Pectinibranchia) from the Aral Sea. *ZZ* 60(1):29–35 (ES).

[Eight species new to science are described from various regions of the Aral Sea. *Caspihydrobia kazakhstanica*, *C. behningi*, *C. obrutchevi*, *C. aralensis*, *C. sadorovi*, *C. nikitinskii*, *C. nikolskii*, and *C. bergi* are distinguished from each other and from previously described species by the proportions and form of the shell and by the rate of growth of the whorls. The genus *Caspihydrobia*, endemic to the Aral-Ponto-Caspian Basin and surrounding arid regions, contains, to date, 29 species.]

YAROSLAVTSEVA, L. M. & L. A. KARPENKO. 1980. Studies of the roles of organismic and cellular mechanisms in adapting to decreases in salinity in several near shore mollusks. *BMV*, no. 3:80–87 (ES).

[Three species of gastropod mollusks (*Collisella dorsuosa*, *C. radiata*, and *C. versicolor*) differing in zonation within the littoral were studied. In upper littoral species, stability during sharp decreases in salinity is provided by a behavioral reaction—the insulating reflex. Absence of differences in osmotic equilibria of cells in the studied mollusks is probably indicative of similar salinity conditions at various levels of the littoral zone. Gradual changes in salinity elicit a different response in littoral mollusks. A higher degree of tolerance, the basis for which is most likely



cellular, is possessed by mollusks from the upper littoral in comparison to species from the mid and lower littoral zones.]

## GASTROPODA, PULMONATA, AQUATIC

ARKHIPOV, V. V. & M. A. KOSTENKO. 1981. Mobility and interaction in a culture of isolated neurons taken from adult mollusks. *ZEBF* 17(2):187-190.

[Isolated neurons from brains of the pond snail *Lymnaea stagnalis* and the grape snail *Helix pomatia* were treated with pronase and cultured. The direction of motion and aggregation of neuronal bodies was demonstrated. Observations on the formation of cellular aggregates and on the formation, in culture, of nerve nets, not simply by motion of axons, but in the very bodies of neurons are recorded.]

BEREZKINA, G. V. 1980. Some observations on the development and function of the reproductive system of lymnaeids. *EKS*, pp. 22-32.

[Material representing eight species of *Lymnaea* was collected in the waterways of Smolensk Province. The ontogeny of lymnaeids can be separated into three stages: juvenile, stage of male reproductive maturity, and stage of full hermaphroditism; the first may be further subdivided into three periods. This paper describes each of these stages in detail. Development of the ducts under laboratory and field conditions is compared, and the limits of variability of several taxonomically significant indices of shell and reproductive characters are determined. Influences of several external factors (e.g., size of body of water, illumination) and of the role of self-fertilization in the reproductive process were also investigated. It was shown that with self-fertilization, eggs are deposited later, the number of eggs per clutch decreases, and the number of clutches increases in *Radix transsylvanica*, while in *L. atra* the number of clutches sharply decreases. With increased self-fertilization, the number of anomalous eggs increases and the size of the eggs and of the mollusks decreases. In the field, the negative consequences of self-fertilization appear to be limited to two or three generations. As a result, homozygosity increases.]

BEREZKINA, G. V. 1981. Seasonal changes in the reproductive system of lymnaeids. *ZZ* 60(7):978-983 (ES).

[Studies of the genitalia of five species of *Lymnaea* have shown that the degree of spermatogenesis and oogenesis in the hermaphroditic glands of pond snails depends on the time of year. Laboratory experiments indicate that these may be the reactions of the organism to the duration of daylight.]

BEREZKINA, G. V., A. P. IZAKENAITA, L. N. KISELEVA & T. S. KONSTANTINOVA. 1980. Some observations on calcium levels in lymnaeid shells. *EKS*, pp. 45-49.

[Studied were levels of  $Ca^{++}$  in shells of four species of *Lymnaea* collected in waterways within Smolensk Province that have different hydrochemical regimes. As a rule, lymnaeids are limited to waterways that have high levels of the ions  $Ca^{++}$  and  $Mg^{++}$ . Correlations of the basic components of uncorroded shells of all sizes are similar. Percentage levels of  $Ca^{++}$  in the exoskeleton of lymnaeids were the same for all species studied. Entrance of  $Ca^{++}$  into the body and its deposition into the shell is actively regulated by the organism in different water hardnesses. At high concentrations of  $Ca^{++}$ , its accumulation is increased.]

DVORYADKIN, V. A. 1980. Planorbids (Gastropoda, Pulmonata) and their infestation with the larvae of trematodes in the Amur and Marine [coastal] Districts of the Soviet Union. *Fauna presn. vod Dal'n. Vost.* (Freshwater Fauna of the Far East), Vladivostok, pp. 24-36.

[Included are descriptions and several notes on the density, bi-

ology, and distribution of seven species of planorbids, and of their infection by metacercariae of trematodes in the Amur Basin and the drainages of the Marine Coastal District [Primorsk'e]. Included is a list of 29 species of trematode larvae discovered in these mollusks. Examined are questions of the formation of centers of infection in various regions of the southern Far East.]

IZZATULLAEV, Z. 1980. New and little known species of freshwater mollusks of the molluscan family Planorbidae from Central Asia. *Dokl. AN Tadzh. SSR* (Reports of the Tadzhikistan Academy of Sciences) 23(7):406-410 (Tadzhik Summary).

[During 1976-1978, four new species of planorbids were found in the basins of the Syr Darya and the Amu Darya (Oxus) rivers. *Segmentina avicenninae* sp. n. (Turkmen SSR, right bank Amu Darya) is similar to *S. distinguenda*, but is distinguished by a more bulging last whorl and a less distinct keel. Dimensions of the holotype (4 whorls): height 1.4 mm, width 4.2 mm, aperture 1.5 mm. The shell *Kolhymorbis dildora* sp. n. (Uzbek SSR, Ak-kyrgansk Res.) resembles *K. maacki*, but differs in the form of whorl growth. Dimensions of the shell (2.5 whorls): height 0.6 mm, width 1.8 mm, aperture 0.7 mm. *Helicorbis bactriana* sp. n. (Turkmen SSR, right bank Amu Darya) is similar to *H. kozhovi*, but differs in the number of strongly submerged whorls, smaller dimensions, and narrow umbilicus. Shell dimensions: height 1.1 mm, width 3.6 mm, aperture 1.5 mm. *Helicorbis kushanica* sp. n. (type specimen found together with the preceding species) resembles the preceding species, but is sufficiently distinguished by the bulging form of the shell and more submerged upper whorls. Shell dimensions (4.5 whorls): height 1.4 mm, width 4.6 mm, aperture 1.5 mm. *Segmentina distinguenda* (Gredler) is reported from the drainage of Central Asia for the first time.]

KRUGLOV, N. D. 1980. Growth and the functional changes in the morphology of the genitalia during ontogeny of pond snails (Pulmonata Lymnaeidae). *EKS*, pp. 33-45.

[Over 400 specimens representing five species of *Lymnaea* were used in different series of experiments; 200 were dissected. Growth changes in the genitalia are apparent until the onset of hermaphroditic reproductive maturity, prior to which there is more variation both in the morphology of the glandular organs and in the proportions of the copulatory apparatus than in adult mollusks). With reproductive maturity comes stability in the dimensions and proportions of the reproductive apparatus, but not in the glandular organs, which undergo significant functional changes during the reproductive cycle. These natural changes in the genitalia during ontogeny should be taken into account in systematic studies of this group.]

KRUGLOV, N. D. & O. A. FROLENKOVA. 1980. Comparative studies on the morphology of the egg capsules of freshwater gastropods from the European portions of the USSR. I. Subclass Pectinibranchia (Planilabiata, Ectobranchia, Discopoda). II. Subclass Pulmonata (Hygrophila). *EKS*, pp. 49-70.

[Mollusks were collected in the waterways of Smolensk, Moscow, and Kursk provinces. Egg capsules (515) of 24 species from seven families were studied. Features of their external and internal morphologies were used to construct tables to distinguish egg capsules of these species.]

KRUGLOV, N. D. & YA. I. STAROBOGATOV. 1981. A new genus of lymnaeids and the systematics of the subgenus *Omphiscola* of the genus *Lymnaea*. *ZZ* 60(7):965-977 (ES).

[Representatives of *Aegmnomphiscola* gen. n. have a preputial organ divided transversely into two sections. The genus includes three species: *A. europaea* sp. n. (type species) from the waterways of Bashkirii, Yaroslavl'skii, and Gor'kovskoi provinces; *A. uvahevae* sp. n. from Bashkirii and Kazakhstan; and *A. kazakh-*

*stanica* sp. n. from Kazakhstan. The systematics of species belonging to the subgenus *Omphiscola* of the genus *Lymnaea* were studied and found to be conchologically convergent with the new genus. This subgenus includes three species limited almost exclusively to the drainages of the Baltic and North seas: *L. (O.) glabra*, *L. (O.) clavata*, and *L. (O.) gingivata*. Both groups evolved independently from the subgenus *Stagnicola* of the genus *Lymnaea*.]

TURKEVICH, V. N. & N. S. YALINSKAYA. 1981. Maintenance of carbohydrates in the fluids of the mantle cavity of pulmonate mollusks at different temperatures. GZ 17(3):79-85 (ES). [Material was collected in the summers of 1977-1978 in the cooling reservoir of the Kursk region in the waterways and flood plains of the Seym River and in the ephemeral waterways of the sub-Carpathians. Carbohydrate concentrations in the mantle fluids of *Lymnaea stagnalis* and *Planorbis corneus* were studied, as were the effects of changes in temperature on infection of the mollusks with trematodes. Sugar levels in the mantle fluids of these mollusks ranged from 128 to 368 mg% and glycogen from 47 to 98 mg%. Sugar and glycogen levels were higher in mantle fluids of mollusks collected in zones of higher insolation than in other ecological zones during all seasons. Carbohydrate levels in mantle fluids decrease in mollusks infected with trematodes, when compared to uninfected individuals, and continues to decrease with increasing worm infestation.]

UVALIEVA, K. K. 1981. New mollusks of the genus *Carychium* (Pulmonata; Ellobiidae) from Kazakhstan. Izv. AN KazCCP, Ser. Biol. (Proceedings of the Academy of Sciences Kazakhstan SSR, Biology Series), no. 3:35-40 (Kazakh Summary).

[On the basis of an analysis of world malacological literature, characteristics of the genus *Carychium* are reported, as are diagnoses of subgenera described only in foreign sources. Two new species are described and assigned to different subgenera. Their descriptions, systematic affinities, type localities, ecologies, and distributions in Kazakhstan are presented.]

ZHUKOVA, E. V., V. M. SVISTUNOV & B. S. OSIPOV. 1980. The anatomy of the MP-1 neurons of the ramshorn snail *Planorbis corneus*. Tr. Kaliningr. Tekh. In-ta. Ryb. Prom-sti i Kh-va (Transactions of the Kaliningrad Technical Institute of Fisheries, Industry and Agriculture), no. 91:39-42.

[One of the larger neurons originates within the limits of the ventral surface of the small parietal ganglion. It has three primary branches emanating from the proximal segment, leading to the right mantle nerve, the visceral, and right pleural ganglia. The geometry of the neuron remains constant, is independent of its location in the ganglion, and may serve as a reliable morphological criterion for its identification.]

## GASTROPODA, PULMONATA, TERRESTRIAL

IZZATULLAEV, Z. 1981. Introduced species of land snails new to the fauna of Central Asia. Dokl. AN Tadzh. SSR (Reports of the Tadzhikistan Academy of Sciences) 24(3):202-205.

[As a result of investigations conducted in 1977-1979 on four previously recorded species of land snails introduced into Central Asia, two additional introduced species are reported. *Deroceras reticulatum* is first reported from the fauna of Central Asia and *Oxychilus translucidus* is noted as new to the fauna of the USSR. Included are short descriptions of the structural features of the shell, pictures of animals, notes on their harmful effects, and distribution.]

LIKHAREV, I. M. & A. I. L. VIKTOR. 1980. Fauna of the USSR. Mollusks. Vol. 3, no. 5. The Slug Fauna of the USSR

and Contiguous Regions (Gastropoda Terrestria Nuda). Science Press: Leningrad. 437 pp., illustrated.

[This study presents a systematic survey of all species of slugs that occur on the territory of the USSR and adjacent regions: 102 species from 29 genera and 8 families are recognized. Comparisons of the functional morphology of slugs and shelled snails show parallel lines of evolution toward the slug form. Included is a phylogenetic arrangement of the genera and families of slugs and their proper placement within the Gastropoda. A new classification of Holarctic slugs is proposed. Also included is a survey of the basic features of the ecology and physiology of slugs, especially species that menace agriculture. Tables for diagnoses of families, genera, and species are given.]

MATEKIN, P. V., T. N. SOBOLEVA & L. V. PAKHORUKOVA. 1981. Genotypic characteristics of *Bradybaena tzhwetkovi* Uvalieva et Soboleva, 1973 (Mollusca: Stylommatophora). Izv. AN KazCCP, Ser. Biol. (Proceedings of the Academy of Sciences Kazakhstan SSR, Biology Series), no. 1:25-30 (Kazakh Summary).

[By the use of polyacrylamide gel electrophoresis to separate water soluble proteins, biochemical markers and allelic systems were studied in *Bradybaena tzhwetkovi*. Biochemical markers confirm species status for *B. tzhwetkovi* and demonstrate the broad conchological polymorphism within *B. plectotropis*.]

POPOVA, S. M. & I. V. SHIBANOVA. 1981. On species of land snails (Gastropoda, Pulmonata) new to the fauna of Siberia. ZZ 60(2):305-306 (ES).

[In the basin of the Irkut River (left tributary of the Angara River), three species of land snails new to the Siberian fauna were found: *Cochlicopa lubricella* (Parro), *Pupilla sterri* (Voith), and *Bradybaena* cf. *fruticum* (Muell.). The first species was collected in Siberia in the Recent as well as fossil fauna (Pleistocene terraces). Stations at which these species were collected are described in detail, and the distribution of the species is discussed.]

ZEIFERT, D. V. & I. M. KHOKHUTKIN. 1980. Growth rates of land snails from the Trans-Urals. Inform. Materiali In-ta Ekol. Rast. i Zhivotnykh. Otchet. Ses. Zool. Lab. (Informational materials from the Ecological Institute of Plants and Animals. Reports of Zoological Laboratory), Sverdlovsk, pp. 37-38.

[The growth rate of *Bradybaena fruticum* was studied in two natural populations in Sverdlovsk Province, the eastern limit of its range. Animals of the spring generation hatch in the second ten days of May (mid-May); those of the fall generation in the second ten days of August (mid-August). The former become mature in the second year of life; the latter in the third. The early appearance of young is related to the fact that after hibernation, the snails do not mate, but immediately begin laying eggs. At this time, the young of the fall generation are still in hibernation. On the whole, growth of snails stops after early August, with only recently hatched snails growing significantly.]

## GASTROPODA, OPISTHOBRANCHIA

ROGINSKAYA, I. S. 1979. Some observations on the fauna and ecology of opisthobranch mollusks of Cape Kanin Point [Kanin Peninsula, Barents Sea]. Ekol. Don. Naseleniya Shel'fov. Zoni (Ecology of the benthic fauna of the shelf zone), Moscow, pp. 93-103.

[Material for this study was collected in July 1974 in the littoral zone at the northern end of the Kanin Peninsula. In total, four species of opisthobranchs were found: one species of Sacoglossa (*Limapontia cocksi*) and three species of Nudibranchia (*Eubran-*



*chus exiguus*, *Ancula cristata* and *Doto* sp.). *Ancula cristata* and *Doto* sp. were abundant; the other two species were rather rare in the region studied. The dynamics of opisthobranch faunal composition were determined in spring and in more severe climatic conditions. Studies were conducted on the appearance of live animals, diet, time of spawning, and on the methods of dispersal of a species in different portions of its range.]

## BIVALVIA

BELYAEVA, T. G. 1981. On the secretion of polyphenol oxidase by blood cells in the Far Eastern bivalve mollusks (*Crenomytilus grayanus* and *Modiolus difficilis*). Dokl. Acad. Nauk SSSR (Reports of the Academy of Sciences of the USSR) 256(1):188-190.

GAL'PERINA, G. E. & A. A. L'VOVA. 1980. Observations on the growth of *Dreissena polymorpha* (Pall.) in different parts of its range. Materiali k z-u ves. soveshch. vid. i ego produktiv v areale (Materials of the 3rd All Union Conference on the Species and its productivity within its range, Palanga 1980), Vil'nyus, pp. 10-11.

[A comparative study of the rates of growth of *Dreissena polymorpha polymorpha* (I) from the Uchinsky Reservoir (N of Moscow) and *D. polymorpha andrusovi* (II) from the northern Caspian was conducted. The growth season of I lasts from the end of May until October, of II from April to October. There was good correlation between calculated values of and actual maximum lengths of the mollusks, 40 mm and 38-42 mm for I and 24 mm and 26 mm for II respectively. Lifespan of both subspecies is similar, ranging from 3 to 5 years. It is thought that the principal influence on the growth rate of the investigated subspecies is the salinity regimes of their habitats.]

GOROMOSA, S. A. & V. A. TAMOZHNYAN. 1981. Some kinetic characteristics of transaminases from the tissues of the mussel *Mytilus galloprovincialis*. ZEBF 17(4):337-341 (ES).

[Several kinetic characteristics of cytoplasmic and mitochondrial fractions of aspartate and alanine aminotransferase (AAT and ALAT) were studied in mussel tissues. Differences in pH optima and apparently in Michaelis-Menton constants (Km) were found in the fractions of transaminases from muscles and gills. The pH optima of cytoplasmic fractions lie within the limits 7.5-9.0. Those of mitochondrial fractions are more acidic. Cytoplasmic AAT and ALAT are characterized by a high dependence on alpha-ketoglutarate and low dependence of aspartate and alanine. In mitochondrial fractions the reverse dependence is observed. These data confirm the presence of two isoenzymes of each transaminase in the tissues of mussels.]

KALININA, G. G. 1980. Lipids in the nerve ganglia of the grey mussel. GERM, pp. 44-47.

[Lipids of the nerve cells from cerebropleural, visceral, pedal ganglia were studied using cytochemical and biochemical methods. The maximum level of lipids is found in the fall, declines in winter, and gradually increases in the spring and summer. The phospholipids include: phosphatidylethanolamine, phosphatidylcholine, ceramide 2-aminoethylphosphonate, lysophosphatidylcholine, phosphatidylinositol, lysophosphatidylethanolamine, phosphatidylserine, phosphatidic acid, and phosphoglycerol. Total content of lipids and phospholipids increases during the spawning season, but their qualitative composition does not change.]

KHARAZOVA, A. D., V. I. FATEEVA & N. V. NECHAEVA. 1981. Determination of the rate of protein synthesis in the tissues of

mussels under conditions of reduced salinity. Tsitologiya (Cytology) 23(3):323-327.

[Methodology for determining the rate of protein synthesis while monitoring changes in cell permeability was applied to study protein synthesis in tissues of *Mytilus edulis* under conditions of reduced salinity. It was shown that the rate of protein synthesis was significantly reduced with changes in salinity.]

KHLEBOVITCH, V. V., L. A. YAKOVISHINA & A. YU. KOMENDANTOV. 1981. Changes in electrolyte content in the mantle fluids and hemolymph of the White Sea mussel (*Mytilus edulis*) under the prolonged, complete freshening of the external environment. BMV, no. 2:86-89 (ES).

[After placing White Sea mussels in freshwater, their mantle fluid gradually lost Na<sup>+</sup>, K<sup>+</sup>, and Mg<sup>++</sup> into the surrounding water (on the ninth day 50, 36, and 45% respectively), despite the isolation reflex. Levels of Ca<sup>++</sup> gradually increased in the mantle fluid—by 50% on the ninth day. Concentrations of Na<sup>+</sup> and Ca<sup>++</sup> were the same in the hemolymph and mantle fluid, while levels of K<sup>+</sup>, and likely Mg<sup>++</sup>, were higher in the hemolymph. The exchange of ions by mussels in freshwater is determined by diffusion outward from the mantle fluid and by the utilization of shell Ca<sup>++</sup> to increase the buffer capacity of body fluids during anaerobic respiration.]

KOSHELKINA, Z. V. 1980. The family Retroceramidae and the zonal stratigraphy of the Middle Jurassic of the northeastern USSR. Ekosistemi v stratigr. Materiali Vses. Soveshch. (Ecosystems in Stratigraphy. Proceedings of the All-Union Conference, Vladivostok, 1978), pp. 131-135.

[The development of the family Retroceramidae represents an important period in the development of the organismic world of boreal Jurassic seas, even though it was of comparatively short duration. Several stages can be outlined in the developmental history of the retroceramids. These form the basis for distinguishing the sublayers and regional zones. The first stage is characterized by the formation and radiation of the subgenus *Mennericeramus*, the second stage by the appearance and development of the subgenus *Fractoceramus*, and the third includes the origin and radiation of the subgenera *Retroceramus* and *Boreioceramus*. Stage boundaries overlap in some places. In some areas, subgenera appear sequentially through time. In other areas, they continue their development in parallel, appearing as mixtures of species complexes. A burst of adaptive radiation of retroceramids occurs in the Middle Jurassic.]

KUZ'MICHEVA, V. I. & L. V. SANINA. 1981. Caloric content of bivalve mollusks of the Caspian Sea. NDVS, no. 6:44-48.

[The caloric content of four bivalves from the northern and central Caspian Sea were determined and found to vary little in the spring and fall, ranging between 4.5 and 5.5 cal./mg dried body weight. Changes in caloric content are due to the degree of maturity of the gonad. As the gonads mature, caloric content per unit dried body weight increases, then decreases after the gametes are shed. Salt retention increases simultaneously.]

KUZ'MINA (MIKHAILOVA), O. YU. 1981. Effects of potassium concentration and salinity on the electrolyte composition and cell volume of mussel muscle. Tsitologiya (Cytology) 23(4): 461-465 (ES).

[During incubation of adductor muscles in potassium free seawater with salinities of 10, 26, and 40‰, the sodium concentration of muscles increases and potassium levels decrease. Two- and fourfold increases in potassium concentration of seawater with a salinity of 10‰ does not affect potassium levels in adductor muscles nor their hydration. These data demonstrate that sodium-potassium ionic regulatory mechanisms play a signifi-

cant role in stabilizing the ratio of sodium to potassium in cells, and indicate that to function properly, this pump requires certain minimum levels of potassium in the environment. Increases in potassium concentration do not effect the function of the Na-K ionic regulatory mechanism.]

LEIBSON, N. L. & L. N. USHEVA. 1979. Functional morphological characteristics of the digestive gland of bivalve mollusks. SRF, no. 4:5-33.

[This survey investigates the basic questions of structure and function of the principal organ of digestion in bivalve mollusks—the digestive gland or digestive diverticulum. A history of the study of this organ is briefly recounted, and includes the main points of the classical theory of Yonge—the discoverer of intracellular digestion in mollusks—as well as a re-analysis of this theory in the light of more recent data. Included are descriptions of the cellular composition of the epithelium of the ducts and channels, of the dynamics of the currents circulating within them, and of the ultrastructure and function of the different cell types (transport, phagocytic, absorptive, enzyme secreting, and excretory). The characteristics of two types of basophilic cells (secretory and regenerative) are given. The dependence of the digestive cycles of bivalve mollusks on factors in the surrounding medium (primarily tides) is demonstrated. The sources and mechanisms of regeneration of the epithelia of the gland are examined. Summarized is the basic literature on the structure and function of the digestive gland of *Bivalvia*.]

MAKRUSHIN, A. V. 1981. The hemocytes of *Mytilus edulis* and *Macoma baltica*. ZZ 60(2):306-309 (ES).

[Histological studies on the structure of hemocytes in the gills of mussels of different ages were conducted, beginning with the first year of life. Judging by the morphology of the hemocytes, which were identified as amebocytes and lymphocytes, the ontogeny of mussels was divided into two periods. The first (one- to three-yr-old mollusks with shells 1.5-15 mm in length) is characterized by hemocytes of variable form, without granular cytoplasm or sharp division between nucleus and cytoplasm (amebocytes). In the second period (two- to five-yr-old mollusks with 23-25 mm shells) the dominant hemocytes were oval or round in form and had granular cytoplasm (lymphocytes). Similar growth changes in hemolymph composition were found in *M. baltica*.]

MARCHENKO, A. A. 1979. Nerve cells of the cerebropleural ganglia of the edible mussel. SRF, no. 4:46-48.

MOTAVKIN, P. A. & A. A. VARAKSIN. 1979. Histophysiology of the central nervous system of the coastal scallop *Patinopecten yessoensis*. SRF, no. 4:34-45.

MOTAVKIN, P. A. & A. A. VARAKSIN. 1980. Types of axons and synapses in the neuropil of the visceral ganglia of the Maritime Territory scallop *Patinopecten yessoensis* (Jay). GERM, pp. 27-32.

[Several types of axons, each with characteristic vesicles, are described from the neuropil of the visceral ganglion. The most reliably identified are those with choline and monoaminergic (serotonin and dopamine) vesicles. Despite the prevalence of axon-axon synapses on individual nerve cells throughout the neuropil, there are also axon-somatic contacts. Elementary neurosecretory peptide-containing granules may function as synaptic vesicles.]

NEVESSKAYA, L. A. & S. V. POPOV. 1980. Features of the evolution of bivalve mollusks in the intra-continental basins of the Paratethys Sea and their significance for stratigraphy. Ekosistemi v. stratigr. Materiali Vses. Soveshch. (Ecosystems in Stratigraphy. Proceedings of the All-Union Conference, Vladivostok, 1978), pp. 98-101.

[Bivalve mollusks are considered to be a conservative, slowly evolving group, with basic ecological types appearing early in the fossil record. Their Mesozoic expansion is linked to the appearance of siphonate forms and the divergence of epifaunal groups. In the Cenozoic, generic composition remains almost unchanged, with many of the Recent species known from the Oligocene and Miocene. However, the radiation of mollusks in closed, brackish-water basins, where only a few euryhaline taxa are able to survive, provides examples of very rapid "explosive" evolution, with the formation of numerous taxa of specific, generic, and subfamilial rank, often accompanied by a transition into niches unusual for the ancestral group. Stratigraphic boundaries in marine deposits are based on changes in ecological conditions. Correlations are, therefore, less precise than with deposits produced by the breaking up of isolated brackish basins which can be subdivided on the basis of the evolutionary succession of species which rapidly evolved in them.]

SAVITSKII, V. O. 1981. New species of Far Eastern *Cyclocardia* (*Bivalvia*; *Carditidae*). ZZ 60(3):457-461 (ES).

[*Cyclocardia kurilensis* sp. n. and *C. skarlatoi* sp. n. are described from the southern part of the Sea of Okhotsk in the region of Urup and Iturup islands. The following quantitative characters were utilized in the description: length and height of shell, convexity of one valve, number of ribs, coefficient of elongation (ratio of shell height to its length), and coefficient of convexity (ratio of convexity to shell height). Figures and diagnostic characters of the new species are included.]

SHEPEL', N. A. 1980. Influence of environmental conditions on the behavior of the mussels (*Crenomytilus grayanus*) in mats. Izvestiia Tikhookeanskii nauchno-issledovatel'skii institut rybnogo khoziaistva i okeanografii (Proceedings of the Pacific Ocean Scientific Institute of Commercial Fisheries and Oceanography) 104:88-91.

[The method by which adult mussels move within the colony is discussed. This observation changes notions of the solidity, constancy, and stability of mussel colonies. The absence of silt on the substrate and protection from wave action of the regions inhabited by mussels create optimal conditions for their growth.]

SHKORBATOV, G. L. & P. I. ANTONOV. 1980. An ecological-physiological approach to the study of population structure of the subspecies *Dreissena polymorpha polymorpha* (Pallas). Materiali k z-u vses. soveshch. vid. i ego produktiv v areale (Materials of the 3rd All Union Conference on the species and its productivity within its range, Palanga 1980), Vil'nyus, pp. 24-25.

[It is suggested that the potential range of *Dreissena* may be cosmopolitan, its boundaries determined by abiotic factors of habitat. Local populations of *Dreissena* inhabiting isolated waterways are distinguished from macropopulations characteristic of river systems. The latter can be subdivided into meso- and micropopulations. Mesopopulations are synchronized in different climatic zones or regions to various hydrological or biological conditions; micropopulations are associated with specific biocenoses. Comparison of ecophysiological and ecomorphological characteristics of *Dreissena* from various regions within its range confirms the complexity of its intraspecific structure and broad range of adaptive variability. Definition of the stable boundaries of the various meso- and micropopulations of *Dreissena* with basic abiotic factors allows prediction of the development of *Dreissena* in waterways with various thermal, salinity, and oxygen regimes, and outlines the boundaries of its potential range.]

SKARLATO, O. A. 1981. Bivalve mollusks of temperate latitudes



- of the western portion of the Pacific Ocean. Science Press: Leningrad. 497 pp., illustrated.
- [279 species, belonging to 119 genera and 45 families, are discussed in this monograph. Tables for their identification are included. Based on an analysis of bivalve distribution, the biogeographic regions of the Far Eastern seas of the Soviet Union are defined. Several historical features of the formation of the bivalve fauna of the North Pacific are identified. The relationships of bivalves to temperature, substrate, and depth of the habitat are explained. The roles of these mollusks in benthic marine biocenoses are discussed.]
- STADNICHENKO, A. P. 1980. New species of freshwater mollusks (Bivalvia; Cycladidae) in the fauna of the USSR. *Vestn. Zool. (Zoological Herald)*, no. 6:29–34 (ES).
- [From the collections of freshwater mollusks taken in Crimea during 1973–1979, three new species of the genus *Euglesa*—*E. juliae*, *E. crimeana*, and *E. dymy*—are described. An additional new species of the same genus, *E. alexandri*, is based on 40-yr-old material in the collections of The Zoological Institute, Academy of Science, USSR. Detailed descriptions of shell morphology, dimensions of holotypes, and information on type localities are included. Diagnostic characters include external morphology and form of the shell, changes in shell convexity with height of the frontal section, position and form of the umbos, structure of the ligament pits, features of the adductor muscle scar and pallial line, and hinge structure. All four new species are figured. All holotypes are in the collections of the Zoological Institute.]
- STADNICHENKO, A. P. 1981. New and little known species of the family Cycladidae in the fauna of the Ukraine. Report I. *Vestn. Zool. (Zoological Herald)*, no. 2:38–41.
- [Studies are based on materials collected during 1964–1979 in the Ukraine and from several malacological collections. Twenty-two species were found, of which 11 are first reported in the Republic. Shell morphology as well as morphometric characters (height, length, shell convexity, etc.) were used to distinguish these species. Locality data and notes on the ecology are included, as are comparative remarks for several species.]
- TUSHMALOVA, N. A., O. YU. KARULINA & V. V. ASHAPKIN. 1981. Conditioned defensive reflexes in bivalve mollusks of the family Sphaeriidae. *NDVS*, no. 8:51–55.
- [Investigations of different forms of acquired behavior have shown that these mollusks are capable of developing temporary conditioned defensive reflexes to tactile and chemical stimuli. This type of acquired reaction, apparently, is highest for mollusks of this family, and places them at a level of development of the central nervous system comparable to that of gastropods.]
- VARAKSIN, A. A. 1980. Innervation of the walls of the sexual glands of the Maritime Territory scallop *Patinopecten yessoensis* (Jay). *GERM*, pp. 21–26.
- [The walls of the gonads have been found to contain nerve cells, small ganglia, and nerve fibers. The majority of nerve fibers, which form a dense network, contain primarily dopamine and serotonin. Peptide-containing fibers were often found in nerve trunks. Their expansions, filled with secretory granules, are in contact with the walls of neighboring cells. A portion of this peptide-containing neurosecretory material reaches the walls of the gonads via nerve conductors. Cholinergic fibers are found less frequently. There are also sensory conductors with typical receptor endings, most often of the dendritic type.]
- VOLOVA, G. N. & O. A. SKARLATO. 1980. Bivalve mollusks from Peter the Great Bay. Far Eastern Book Press: Vladivostok. 95 pp., illustrated.
- [This guide, intended for professionals and amateurs, includes

all species of bivalves known to the bay, dwelling to depths of 50 m; brackish-water species from the estuaries are not included. All diagnostic tables are based only on the morphology of the shell.]

- ZAITSOVA, O. V. & V. A. SOKOLOV. 1981. Cellular organization of the osphradium in the lamellibranch mollusks *Unio pictorum* and *Anodonta cygnea*. *Arkhiv. anatomii, gistol. i embriol. (Archiv for anatomy, histology and embryology)* 80(5): 90–97 (ES).

[The localization and cellular organization of osphradia in the freshwater lamellibranchiate mollusks *Unio pictorum* and *Anodonta cygnea* were studied. A large number of bipolar primary sensory receptor cells was found in the subepithelial sensory domain of the osphradium using in-vitro staining with methylene blue. Uni-, bi- and multipolar neurons, forming a special branchial ganglion in the proximal part of the osphradium, were found along a branch of the branchial nerve. Elements that conduct impulses in both ascending and descending directions, and that form primary and reverse connections between receptors and the CNS, are believed to be found among these neurons.]

- ZHADAN, P. I., P. B. SEMEN'KOV & N. M. CHEKMASOVA. 1980. Morphological and electrophysiological studies of the sensory system in the mantle edge of the Maritime Territory scallop *Patinopecten yessoensis* (Jay). *GERM*, pp. 33–43.

[Light and electron microscopy were used to study the long mantle tentacles. Epidermal papillae were found to contain two types of cells. Cells of the first type are structural, forming the capsule of the papilla. The free surface of these cells is covered with microvilli. Cells of the second type are distributed within the capsule and carry apical cilia. Electrophysiological studies of the sensitivity of the mantle edge to mechanical and chemical stimuli have shown that the mantle nerve originates a discharge impulse in response to touch and to weak stirring of the water. Chemical stimulation with extracts of tissues of various animals elicits a prolonged increase in impulse production in the mantle edge. Effectiveness of extract depends on the species of animal, and decreases in the sequence starfish, holothurian, sea urchin, mussel, and fish. Action of extracts from external tissues is always greater than from extracts of internal organs.]

## CEPHALOPODA

- DEMBITSKII, V. M. 1981. Plasmalogen composition of phospholipid classes in different organs and tissues of an octopod *Octopus* sp. *ZEBF* 17(3):296–298.

[The levels of phosphatidylethanolamine, phosphatidylcholine, and phosphatidylserine and of the plasmalogen forms of these phospholipids in the brain, venous heart, gills, eyes, stomach, liver, and muscle were determined in one species of octopod from Vityaz' Bay, Sea of Japan. Only phosphatidylethanolamine has significant levels of plasmalogen. For phosphatidylcholine and phosphatidylserine, plasmalogen levels do not exceed 10%. Levels of the plasmalogen form of phosphatidylethanolamine are highest in the liver (50%) and lowest in the brain (27.8%). The latter level is greater than that found in bony fish (15.8%), frogs (17.9%), and reptiles (20%), closer to levels found in cartilaginous fish (29%) and birds (26.5%), and lower than levels found in mammals (49–65%).]

- KOBELEV, E. A. 1981. A squid from the White Sea. *Ryb. Kho (Fisheries)*, no. 4:48.

[A single specimen of the squid *Todarodes sagittus* was caught in October 1980 in nets at a depth of 3 m off Petrominsk, Dvinskaya Guba [Dvinsky Bay]. Length 67 cm, wt. 1.2 kg. This species was previously taken only once in the White Sea (in



1884, two specimens). Its appearance has been erroneously connected to the warming of the water of the White Sea in 1980.]

KONDRAKOV, N. N., L. I. MOSKALEV & K. N. NESIS. 1980. The octopus *Benthoctopus sibiricus* Loyning endemic in the eastern Arctic. Ekol. Issled. Shel'fa (Ecological investigations of the shelf), Moscow, pp. 42-56.

[*Benthoctopus sibiricus* is re-described on the basis of material collected on the edge of the shelf of the Chukchi Sea at drifting station SP-22 (an adult male) and in the Laptev Sea by expeditions of the vessels *Zare* in 1901 and *Vaygache* in 1914 (juveniles). It is a shallow (38-220 m) cold-water species of the primarily bathyal genus *Benthoctopus* and the only species of benthic octopus in the eastern Arctic seas. It ranges from the Vilkitskii Proliv [S of North Land, Kara Sea] presumably to the Beaufort Sea, with its eastern and western boundaries formed by the range of the large species of the western Arctic *Bathypolytypus arcticus*. These two species of octopus have never been encountered together. The composition and range of the fauna of the Arctic Shelf is discussed. A hypothesis is proposed regarding the limits of the range of *B. sibiricus* in the shelf seas of the eastern Arctic, and suggests that the separation of the ranges of *B. sibiricus* and *B. arcticus* are determined by the same factors that divide the high Arctic and Arctic-Boreal faunas into western and eastern Arctic and American faunistic centers; namely, the different conditions of ice cover during the Pleistocene. In the western Arctic, glaciers dominated to the edge of the shelf, while in the eastern Arctic, the shelf was not subjected to covering glaciers. The biology of *B. sibiricus* is discussed, and a table for diagnosing the Arctic-Boreal species of *Benthoctopus* is presented.]

NESIS, K. N. & I. V. NIKITINA. 1981. Macrotritic planktonic larvae of the benthic octopus *Octopus defilippi*: identification and distribution. ZZ. 60(6):835-847 (ES).

[A study of 77 macrotritic larvae with mantle lengths ranging from 1.3 to 11.0 mm taken in the Gulf of Mexico, Caribbean Sea, and the east-central Atlantic and Indian oceans established that this is the larvae of the benthic, sublittoral, tropical-subtropical octopus *Octopus defilippi* and not of *Scaevargus unicirrhus*, as previously believed. As recently described, larvae hatch with arms of equal length, but different pairs grow at different rates. It is probable that a change in the index of allometry between arm growth and mantle length precedes settling to the bottom. Reproduction occurs year round. Larvae are encountered sporadically, but in some places are abundant. The total number of larvae collected and reported in the literature surpasses the number of young adult and adult individuals of *O. defilippi*. Almost all larvae are epipelagic and encountered beyond the shelf edge. Six regions of larval accumulation were discovered. These were all in regions of closed, quasi-stationary circulation. Very small larvae (mantle length less than 2.5 mm, reflecting growth presumably of less than ten days) were encountered from 100 to 400 km from shore, which is possible only with unusually high speeds of drift. Macrotritic larvae are capable of retarding settling and, presumably, have a chance of crossing the Atlantic.]

#### Western Society of Malacologists Annual Meeting, 1987

The Western Society of Malacologists will hold its 20th Annual Meeting in San Diego, California, at San Diego State University, 21-25 June 1987. In addition to the regular program of contributed papers on mollusks, two special symposia are planned: "The Imperial Formation

and the Northern Gulf of California—Geology and Recent Mollusks" (Chaired by Judith T. Smith, U.S. Geological Survey, Menlo Park, CA 94025), and "Molluscan Aquaculture" (Chaired by David L. Leighton, Abalone Mariculture Enterprises, 11722 Sorrento Valley Road, San Diego, CA 92121). Abstracts are invited.

For further information and registration materials, contact Carole M. Hertz, San Diego Natural History Museum, P.O. Box 1390, San Diego, CA 92112. Telephone: (619) 232-3821, ext. 228, or (619) 277-6259.

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At its regular Annual Business Meeting on 23 September 1986, the Executive Board of the California Malacozoological Society, Inc., set the subscription rates and membership dues for Volume 30 of *The Veliger*. For affiliate members of the Society, the subscription rate for Volume 30 will be US\$25.00; this now includes postage to domestic addresses. For libraries and nonmembers the subscription rate will be US\$50.00, also now with postage to domestic addresses included. An additional US\$3.50 is required for all subscriptions sent to foreign addresses, including Canada and Mexico.

Affiliate membership in the California Malacozoological Society is open to persons (no institutional memberships) interested in any aspect of malacology. There is a one-time membership fee of US\$2.00, after payment of which, membership is maintained in good standing by the timely renewal of the subscription.